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RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE - EXAMINING GROUP 2811

Attorney Docket No.: 5649-873

PATENT

#10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Gwan-hyeob Koh et al.

Group Art Unit: 2811

Serial No.: 09/891,905

Examiner: Samuel A. Gebremariam

Filed: June 26, 2001

Confirmation No.: 1424

For: METHODS OF FORMING INTEGRATED CIRCUITS USING MASKS TO
PROVIDE ION IMPLANTATION SHIELDING TO PORTIONS OF A
SUBSTRATE ADJACENT TO AN ISOLATION REGION THEREIN

December 13, 2002

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J. McMillan
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REQUEST FOR RECONSIDERATION AFTER FINAL

Sir:

Applicants appreciate the detailed examination evidenced by the Final Official Action mailed October 23, 2002 (hereinafter the "Final Official Action"). Applicants maintain, however, that the pending claims are patentable over Japanese Patent No. 410056147A to Nara ("Nara") for at least the reasons discussed herein. For the sake of brevity, Applicants' comments herein focus on the recitations of independent Claims 1 and 21. However, in order to ensure that the present Request for Reconsideration is fully responsive to the Final Official Action, Applicants incorporate herein Applicants' previous response dated July 8, 2002 by reference.

Applicants respectfully point out that Nara does not meet the requirements of a rejection under § 102. In particular, anticipation under § 102 requires that each and every element of the claim is found in a single prior art reference. *W. L. Gore & Associates Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Stated another way, all material elements of a claim must be found in one prior art source. *In re Marshall*, 198 U.S.P.Q. 344 (C.C.P.A 1978). "Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention." *Apple Computer Inc. v. Articulate Systems Inc.* 57 USPQ2d 1057, 1061 (Fed. Cir. 2000). **A finding of anticipation further requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art.** See

Scripps Clinic & Research Foundation v. Genentech Inc., 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Additionally, the cited prior art reference must be enabling, thereby placing the allegedly disclosed matter in the possession of the public. *In re Brown*, 329 F.2d 1006, 1011, 141 U.S.P.Q. 245, 249 (C.C.P.A. 1964). Thus, the prior art reference must adequately describe the claimed invention so that a person of ordinary skill in the art could make and use the invention.

As understood by Applicants, Nara (as applied by the Final Official Action) states that:

A field oxide film 2 is formed in a element separation area on a silicon substrate 1, and through a gate oxide film 3, a gate 4 is formed on a substrate of an element formation area. **Then**, an implantation resist mask 5 which opens only a bit line contact part for ion implantation for controlling a threshold value is formed, and a channel ion is introduced in a channel ion implanted area 6 by oblique implantation . . ."

As shown by the above highlighted portions of the Abstract of Nara, Nara discusses forming a gate 4 **followed by** an ion implant to form the channel area 6 (see, for example, Nara Figures (A)-(C)). In contrast, independent Claim 1 recites in part:

forming a mask on the isolation region that extends onto a portion of the substrate adjacent to the isolation region to provide a shielded portion of the substrate adjacent to the isolation region and an exposed portion of the substrate spaced apart from the isolation region having the shielded portion therebetween;

forming a channel region in the exposed portion of the substrate;

forming a plurality of gate electrodes on the channel region;
and

implanting ions using the plurality of gate electrodes as an implant mask to form source/drain regions associated with the plurality of gate electrodes and to define separate channel regions from the channel region that are self-aligned to the plurality of gate electrodes.

Independent Claim 21 includes similar recitations.

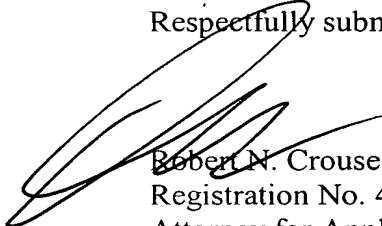
As shown above, Nara discusses forming gate electrodes followed by implantation to form the channel area, whereas, as recited in independent Claims 1 and 21, **the implant to form the channel region is performed before the gate electrodes are formed**. Although the order of steps recited in a method claim may, generally, be in any order, the above claim interpretation is mandated as the independent claims recite that the gate electrodes are formed on the channel region.

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Independent Claims 1 and 21 are, therefore, patentable at least in view of the above cited **differences between the claimed invention and Nara**. Accordingly, Applicants respectfully request the withdrawal of the rejections based on Nara and the allowance of all claims in due course.

It is not believed that an extension of time and/or additional fee(s), including fees for additional claims, are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to our Deposit Account No. 50-0220. If any informal matters arise the Examiner is encouraged to contact the undersigned by telephone at (919) 854-1400.

Respectfully submitted,


Robert N. Crouse
Registration No. 44,635
Attorney for Applicants

Correspondence Address:

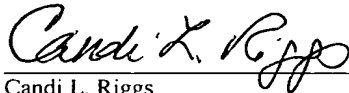


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CERTIFICATE OF MAILING

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Candi L. Riggs

Date of Signature: December 13, 2002